

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Where claims have been amended and/or canceled, such amendments and/or cancellations are done without prejudice and/or waiver and/or disclaimer, and Assignee reserves the right to claim this subject matter in a continuing application:

1. (Currently Amended) ~~A scanner having a light source with a self-collection capability, wherein the scanner is suitable for use in scanning a document, comprising:~~

an optical scanning chassis having a light source, wherein the light source comprises:

a primary light source comprising a tube having a first end and a second end, wherein [[a]] the tube of the light source at includes a tube wall is implemented applied with a total reflective material, wherein the total reflective material has such that an opening for emitting a light beam onto the document, where the light beam is a collected light from [[a]] scattered light is formed; and

a first and a second auxiliary light source, disposed proximate to the first and second end respectively of the primary light source; and

a transmission assembly for supplying [[a]] driving power to the optical scanning chassis to ~~accomplish the scanning operation step by step.~~

2. (Currently Amended) The scanner of claim 1, wherein the total reflective material is coated on an outer wall of the tube of the primary light source.

3. (Currently Amended) The scanner of claim 1, wherein the total reflective material is coated on an inner wall of the tube of the primary light source.

4. (Currently Amended) The scanner of claim 1, ~~further comprising a first auxiliary light source and a second auxiliary light source, wherein the first auxiliary light source and the second auxiliary light source also have the self-collection capability and are arranged at both sides of the light source separately~~ each comprise a tube at least partially coated with total reflective material.

5. (Currently Amended) The scanner of claim 4, further comprising a controlling circuitry, ~~used for~~
~~adjusting~~ adapted to adjust a light output intensity of the first and the second auxiliary light sources.

6. (Currently Amended) A scanner ~~having a light source with a self-collection capability, wherein the~~
~~scanner is suitable for use in scanning a document, comprising:~~

an optical scanning chassis, ~~which includes~~ having a light source, comprising:

a primary light source comprising ~~having~~ a tube ~~with~~ having a tube wall, wherein the tube wall
includes a converging lens wall portion, adapted to collect scattered lights into a light beam light and
then emit the a light beam out to the document; and

a first and a second auxiliary light source, disposed proximate to the first and second end
respectively of the primary light source; and

a transmission assembly for supplying ~~[[a]]~~ driving power to the optical scanning chassis ~~to~~
~~accomplish the scanning operation step by step.~~

7. (Currently Amended) The scanner of claim 6, ~~further comprising a first auxiliary light source and a~~
~~second auxiliary light source, wherein the first auxiliary light source and the second auxiliary light~~
~~source also have the self-collection capability and are arranged at both sides of the light source~~
~~separately~~ each comprise a tube at having a converging lens wall portion.

8. (Currently Amended) The scanner of claim 7, further comprising a controlling circuitry, ~~used for~~
~~adjusting~~ adapted to adjust a light output intensity of the first and the second auxiliary light sources.

9. (Currently Amended) A light source ~~having a self-collection capability, wherein the light source is~~
~~suitable~~ adapted for use in a scanner, the light source comprising:

a primary light source comprising a tube having a tube wall, a first end, a second end, and a
center portion, wherein the tube wall is applied with a total reflective material ~~is implemented on the~~
~~tube wall, and the total reflective material produces the self-collection capability and has~~ such that an

opening for emitting out a light beam is formed, wherein the total reflective material applied proximate to the first and second end comprises a total reflective material having a higher density than the material applied to the center portion of the tube wall ~~after being collected~~; and

a plurality of electrodes, disposed at both sides of the tube.

10. (Currently Amended) The light source of claim 9, wherein the total reflective material is ~~coated on~~ applied to an outer side of the tube wall.

11. (Currently Amended) The light source of claim 9, wherein the total reflective material is ~~coated on~~ applied to interior side of the tube wall.

12. (Cancelled)

13. (New) A scanner light source, comprising:

means for collecting scattered light;

means for emitting the collected light as a beam of light having a light flux density greater than the scattered light; and

means for sensing at least a portion of the emitted light.

14. (New) The scanner light source of claim 13, further comprising:

means for forming collecting electronic data representative of the sensed light.

15. (New) The scanner light source of claim 13, wherein the means for sensing comprises a light sensing device.

16. (New) The scanner light source of claim 13, further comprising:

means for emitting a plurality of additional beams of light; and

means for compensating the collected light by use of the plurality of additional beams of light.

17. (New) The scanner light source of claim 13, wherein the means for collecting and means for emitting comprise:

a primary light source comprising a tube having a tube wall, wherein the tube wall includes a converging lens wall portion.

18. (New) The scanner light source of claim 13, wherein the means for collecting and means for emitting comprise:

a primary light source comprising a tube having a tube wall, applied with a total reflective material, such that an opening is formed.

19. (New) A method of forming a light source for a scanner, comprising:

applying total reflective material on a tube wall of the light source, wherein the light source comprises a tube having a tube wall, a first end, a second end, and a center portion, wherein the total reflective material is applied to the tube wall such that an opening for emission of a light beam is formed, and wherein the total reflective material applied proximate to the first and second end comprises a total reflective material having a higher density than the material applied to the center portion of the tube wall; and

disposing an electrode on each of said first and second ends.

20. (New) The method of claim 19, wherein the total reflective material is applied to an outer side of the tube wall.

21. (New) The method of claim 19, wherein the total reflective material is applied to interior side of the tube wall.

22. (New) An apparatus, comprising:

an optical scanning chassis having a light source, wherein the light source comprises:

a primary light source comprising a tube having a first end and a second end, wherein the tube includes a tube wall applied with a reflective material, such that an opening for emitting a light beam collected from scattered light is formed; and

a first and a second auxiliary light source, disposed proximate to the first and second end respectively of the primary light source.

23. (New) The apparatus of claim 22, wherein the reflective material is coated on an outer wall of the tube of the primary light source.

24. (New) The apparatus of claim 22, wherein the reflective material is coated on an inner wall of the tube of the primary light source.

25. (New) The apparatus of claim 22, wherein the first auxiliary light source and the second auxiliary light source each comprise a tube at least partially coated with reflective material.

26. (New) A scanner light source, comprising:

a primary light source comprising a tube having a first end and a second end, wherein the tube includes a tube wall applied with a total reflective material, such that an opening for emitting a light beam collected from scattered light is formed; and

a first and a second auxiliary light source, each comprising a tube at least partially coated with reflective material, wherein the first and second auxiliary light sources are adapted to be disposed on the scanner proximate to the first and second end respectively of the primary light source.

27. (New) The scanner light source of claim 26, wherein the total reflective material is coated on an outer wall of the tube of the primary light source.

28. (New) The scanner light source of claim 26, wherein the total reflective material is coated on an inner wall of the tube of the primary light source.